to the bottom, together with much of the original carbonate of lime, leaving only about two grains per gallon still in solution of carbonate of lime.

The milk of lime is made by shaking up a small quantity of quick lime in water.

Permanent hardness of water is caused by the presence of sulphates of lime and magnesia. Neither boiling nor Clarke's process can soften such water.

Wells and Springs.—Where *wells* or *springs* are used as the source of water supply, great care should be taken that the surface in their vicinity be kept free from organic matter, which by oxidation and putrefaction readily forms soluble nitrates, ammonia and chlorides.

Such waters are often clear, pleasant to the taste, sparkling from the excess of carbonic acid and cool from the effects of the nitrates. Hence the senses cannot be relied on, without the aid of a chemical and microscopical analysis to decide whether our well water is fit to drink. Even when all filth, slops, etc., are removed to a distance, we can only infer that there is *no probable* contamination.

The geological structure—stratification, faults, character of the earth, etc.—should be studied in this connection. Thus it was found in a certain locality that wells very near a grave yard gave good water, whereas wells on the opposite side, several hundred yards off, in the direction of the dip of the strata, were polluted to a dangerous extent. The explanation is simply that water has a tendency to flow along the planes of stratification, where the strata are well defined.

Numerous cases of fever, cholera, &c., have been traced to bad water; localities with wells situated on the subterranean current that flowed past the diseased refuse, cess pool, etc., being attacked, whilst neighboring localities were free from the epidemic. It is needless to specify particular instances. Let no wells be placed where kitchen refuse, slops, manure or any kind of fecal matter can drain into